

(19) (KR)
(12) (A)

(51) 。 Int. Cl. ⁷ G02F 1/13	(11) (43)	10-2005-0002426 2005 01 07
(21)	10-2003-0043804	
(22)	2003 06 30	
(71)	20	
(72)	2 2 502	
(74)		
(54)		

가

11

- 1
- 2 1 ' - " ' - "
- 3a 3f 1
- 4a 4b 3a (SLS)
- 5a 5b 4a 4b
- 6a 6b

7

8 ()

9a 9b (SLS)

10

11

12a 12k

< >

1,101 : 2 :

4 : 6, 106 :

8, 108 : 10, 120 :

12, 112 : 14, 114 :

16, 116 : 18, 118 :

20, 120 : 22, 122 :

26, 126 : 28, 128 :

43, 143 : 44, 144 :

41, 141 : 42, 142 :

, 가

(Amorphous siliscon) (Crystalline silicon)

350 가
(Thin Fim Transistor : , 'TFT')

0.5 cm ² /Vs

가

가 cm ² /Vs

TFT

TFT

TFT

가 .
가

(grain) , 가

400 SiF₄, SiH₄, H₂ 가
(Plasma Enhanced CVD) 가

(furnace) 가
(Solid Phase Crystallization : SPC) , (Eximer laser)
가

가

(Complete melting),
(Sequential lateral solidification : , 'SL
S') SLS WO 97/45827 2001-004129

1 2 TFT

1 2 , TFT (2) (6) ,
(4) (8) , (22) (10) , (6) 가
(14)

(14) (16) (6)
(14C), n+ (14S) (14D), n- (Lightly Doped Dr
ain : , 'LDD') (14L) LDD (14L) (14C) (14S) ,
(14C) (14D)

(6) (12) (14) (14C) (2)
(8) (12) (8) (10) 가
(14S) (14D) (26) (24S) (14)
(14) (14D) (12) (26) (24D)

TFT (4) (10)
(22)

가 (28)가
(28) (14)

3a 3f

3a (1) SiO₂, SiN_x (16)
(16) 가 400

SLS 가 4a (43)
(41)가 (41) (42) (41a) (42)
(41b) (41) (42) (43) (melting) (42)
(41) (41a) (42) (43) (43)
) 가 가 (16) (43) (43)

(seed) 가 (43) 4a 5a
 (44) (41) (1) (41) (41a)
 (43) (43) (42) 가 (41) (43)
 4) 가 4b 5b (44)
 (44) 6a (Photoresist)(47)가
 (47) (45)가 (45) (46) (45b) (4
 5) (47) (45a) (46) (47)가 6b (47)
 (44) (28)가 (1) (47)
 3a (14)
 (16) (14) (28) (S11), (S12), (S13), 7 (16)
 (44) (S16) (S17) (S14), (S15),
 3b , SiO₂ , SiN_x (14) (28)가 (16)
 (12) (16) (12) (1)
 , /
 가 (Pho
 tolithography), (12) TFT (6), (2) 가
 (6) (6) (6) (14) LDD (14) n-
 (14) (14L)
 3c , (1) 가
 (14) (14S) (14D) 가
 (14S) (14S) (14D) n+ (14)
 3d , SiO₂ , SiN_x (12) (26)
 (12) (24S) (24D) 가
 (26) 가
 6) (26) (26) (12) (2)
 (24D) (14) (14S) (14D) (24S)
 3e 3f (24S) (24D) (26)
 (8) (10) 가
 (1) (8), (4), (10)
 (24D) (8) (24S) (14) (14S) (10)
 (26) (14) (14D) (18) (8) (10)
 18) 가 (18) (20)
 가 (18) (18) (20)
 (20) (10) 가
 (20) (18) ITO
 가 (22)

(10) (22) , 1 2 (20)

TFT 가 TFT가
가가 , TFT TFT가

가

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TFT

2

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TFT

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TFT

TFT

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2

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8

(141b)

(141a) 1

(141a) , (1st Shot domain : SD1) 2

(141a

(2nd Shot domain : SD2)
(Grain)

)

2 (SD2) SLS (141a) 1 (SD1)
가 , W 가 1/2 W
10
10 , (S1, S2) , (S3)
9
.(S4) S4 , .(S5) S5
가 (echant ratio)가 ,
가 , 11
(114) (128)
, 7
, (S15) , (S17) (1
43) (128) (S4) (S5) (144) (114)
12a 12k
12a , (101) SiO₂ , SiN_x
(143) (101) (116) , (116) 400
가 , SLS
b SLS 가 , 12
(142) (143) (141) (141) 8
(141) (142) (141a) , (141b)
(142) 12b 12c 1 (SD1) 2 (143) (SD2) . 1 (143)
(143) (141a) (116) (143) (142) (143)
가 가 가
9a (144) (143) 1
1) 가 1/2 W 가 (142) W (101) (SD1) 2
(SD2) 가 (143) (141) 1 (101) X Y 2
X-Y (142)가 (Stage) (142)가 9b
4) (143) 12d (143) (14
(144) 가 (echant ratio)가 (14
3) (144) 가 , 11 1
2e (116) (144) (114) (128)

(114) 11 가 ,
 (128) 'ㄱ', 'ㄴ', 'ㄷ', 'ㄹ' 11 '+'
 (141) (141)
 가 .
 12f SiO₂, SiN_x (116) (114) (128) (112) (116)
 (101) , /
 가 .
 , TFT (106) 가 , (112)
 (6) (6) (114) n- , n-
 (P) (As) 가 10¹² 10¹³ /cm² LDD (114L)
 (106) (114)
 12g , (114) (114S) (101) (114D)
) (101) (114S) (114D) (114S) (114D) n+
 . , n+ (P) (As) 가 1 2×10¹⁵ /cm² .
 12h SiO₂, SiN_x (112) (126) (106) (126)
 (124D) , 가 (124S) (124D)
 (126) (124S) (126) (112) (124D)
 (114) (114S) (114D) (126) (124S) (124D)
 (126) (112) (124D)
 12i , (124S)
 (124D) (126) , (108) (110)
 , (101) (108) (110)
 (114S) (110) (124D) (124S) (114) (114D)
) (126) (108) (110) (126)
 (118)
 , (120) (118) (12)
 (118) (120)
 12j 가 (118) (120) (120)
 (110) (120) (118) ITO

(110) (122) (122) 12k (120)

SLS

가

(57)

1.

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2.

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3.

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5 7. ,

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8 9. ,

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8 10. ,

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9 11. ,

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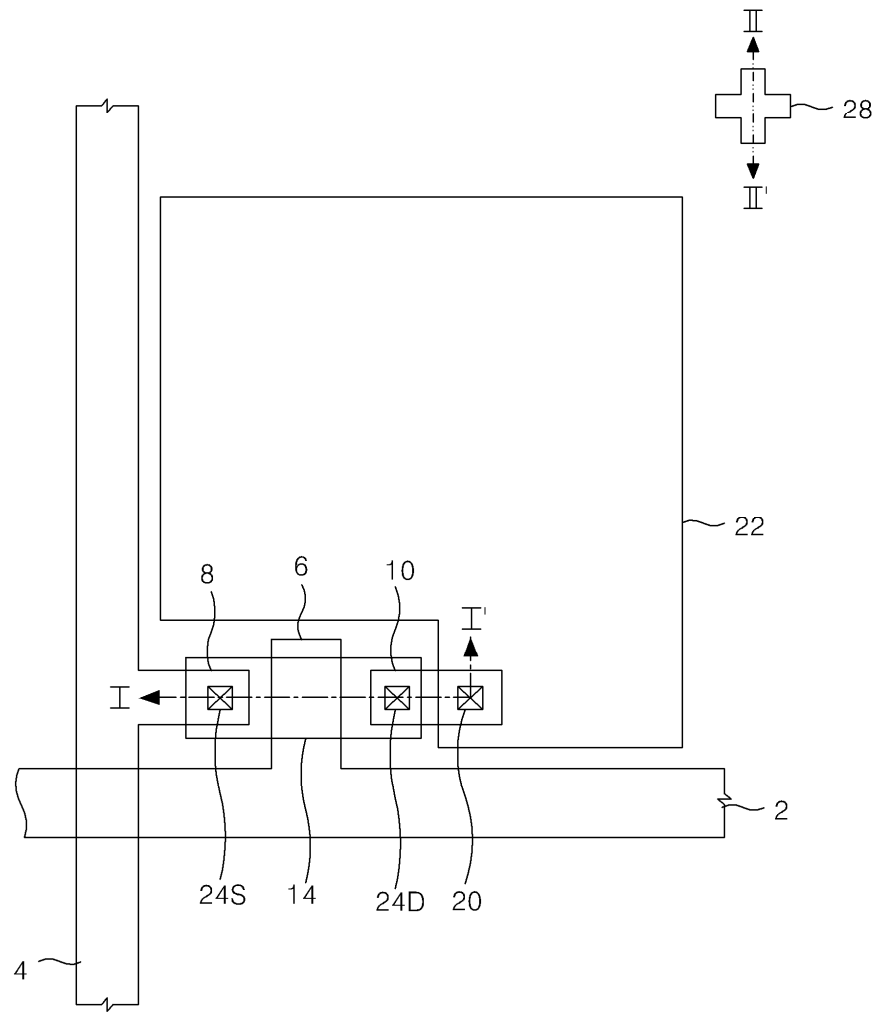
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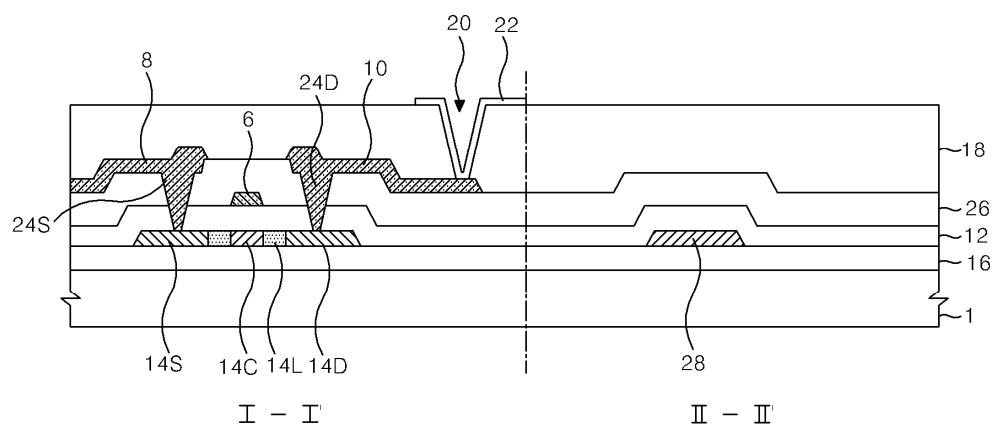
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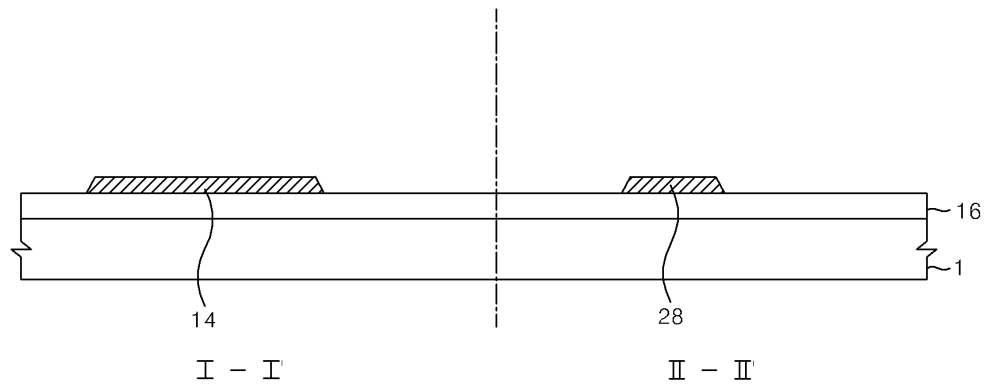
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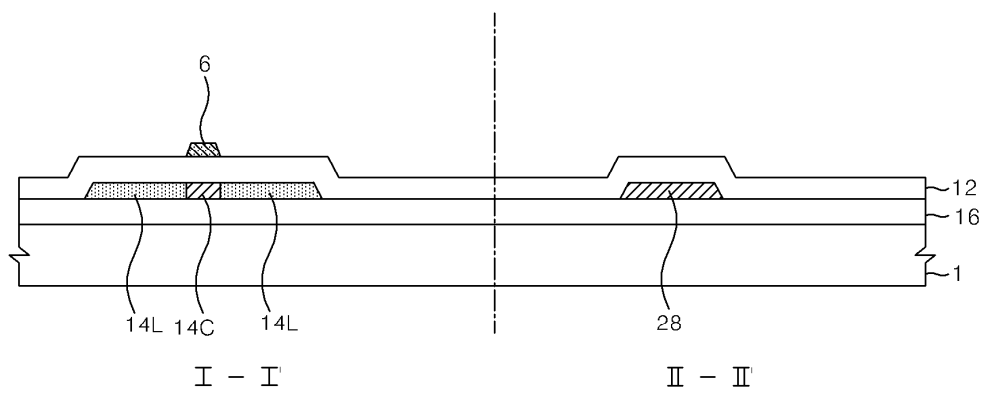
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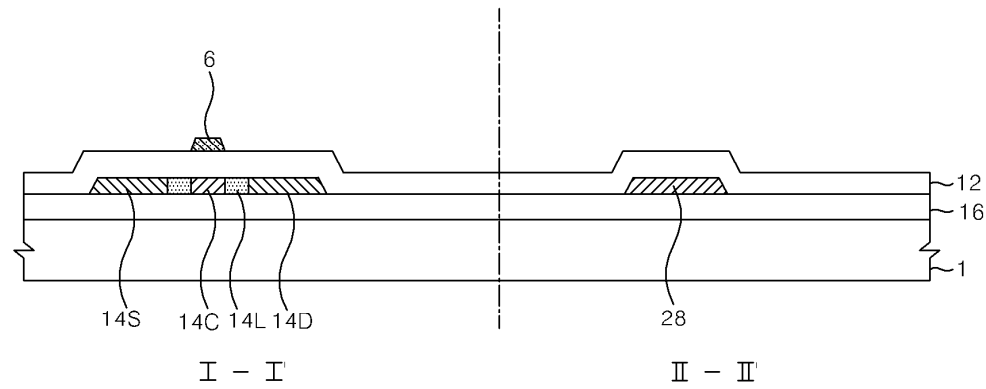
3a



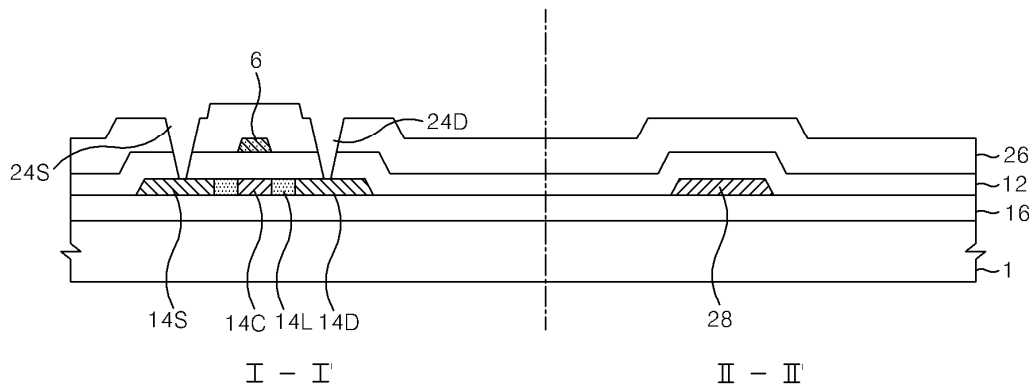
3b



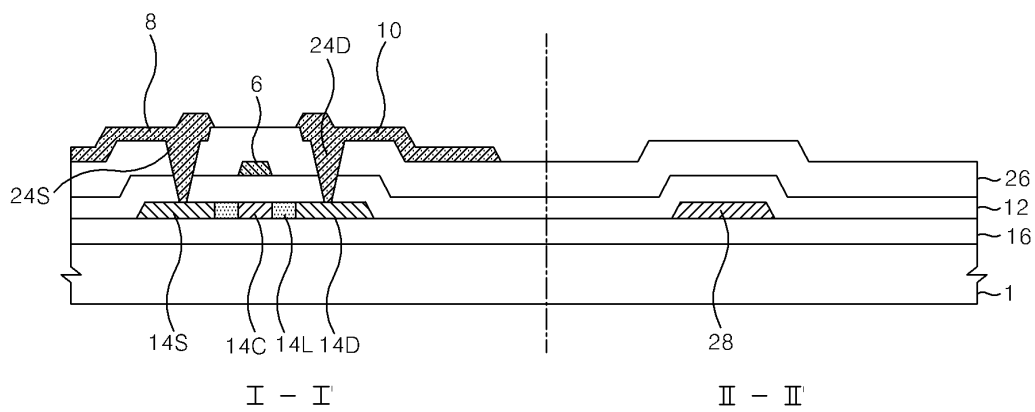
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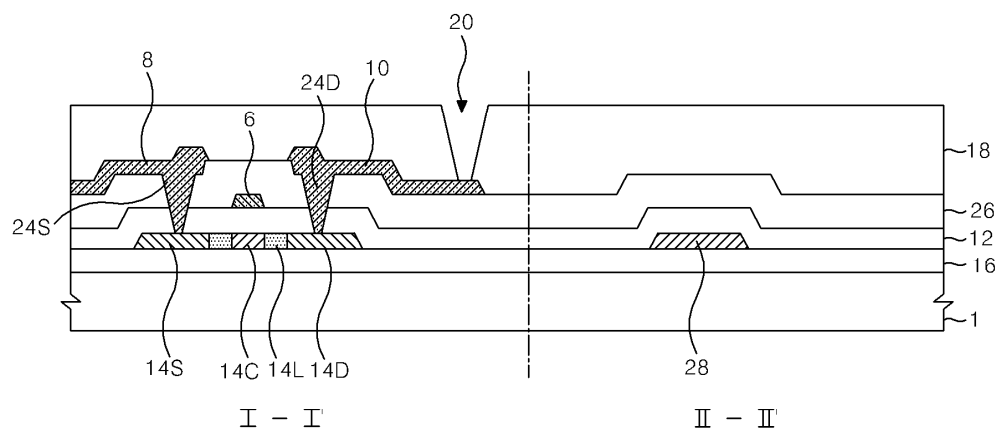
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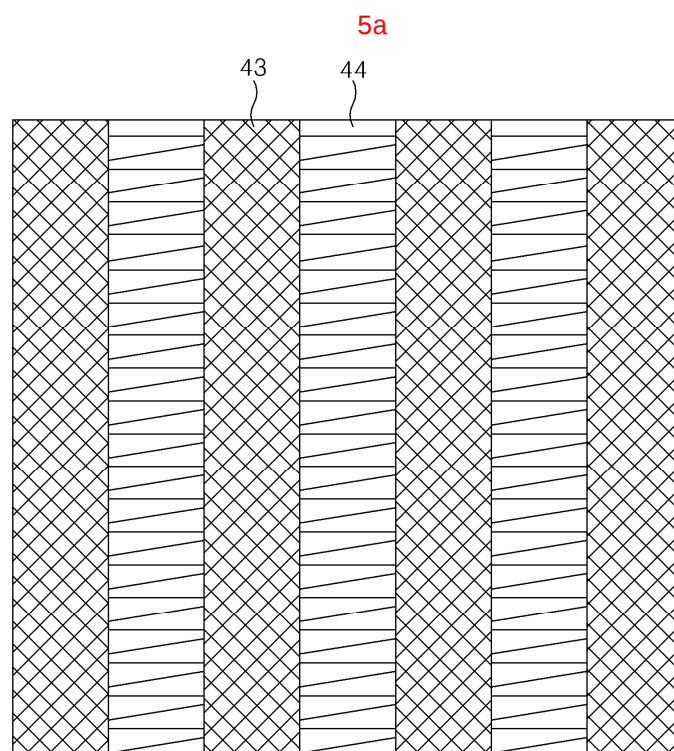
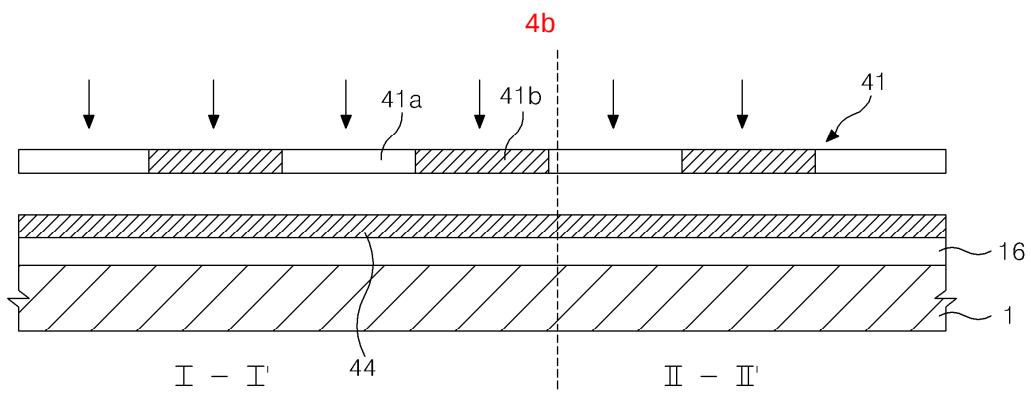
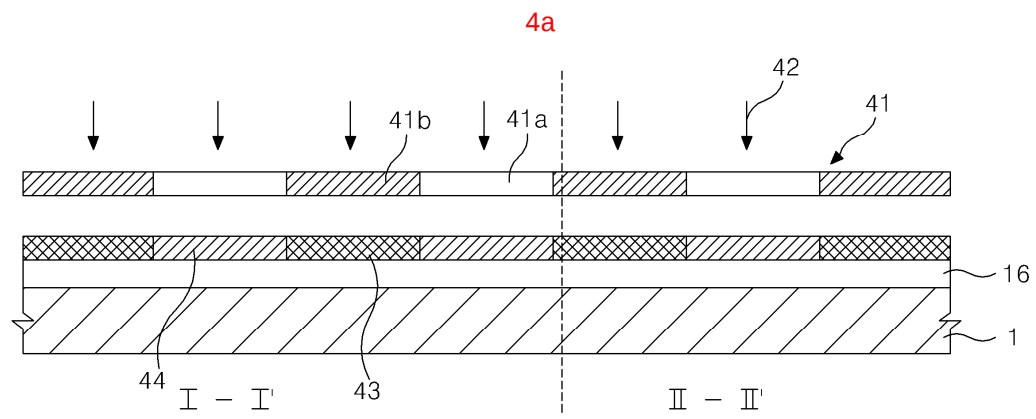


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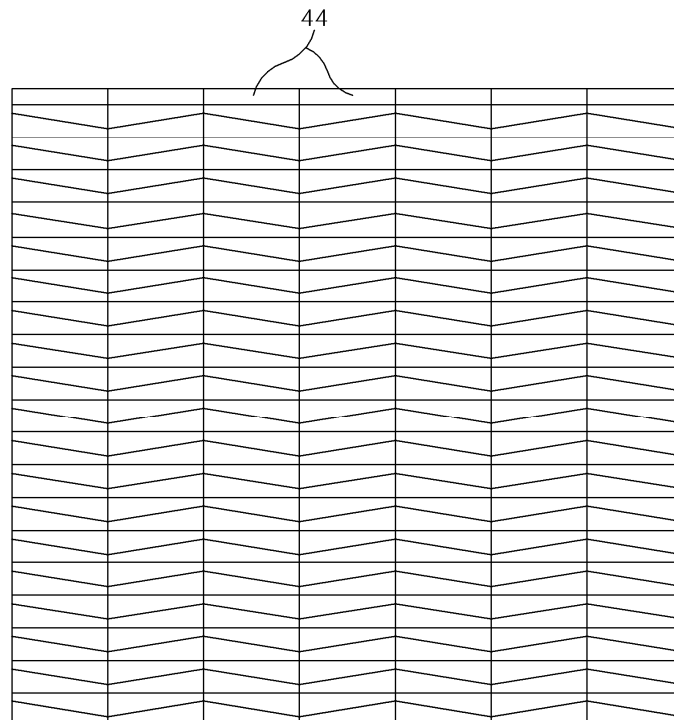


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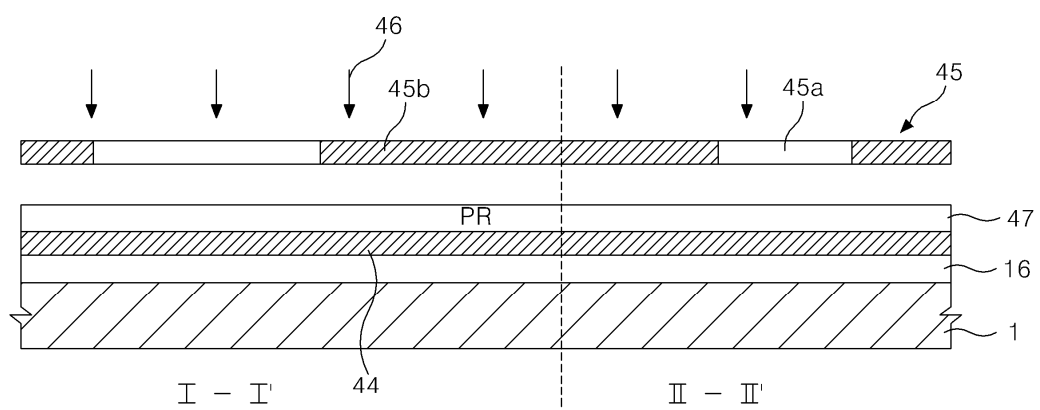




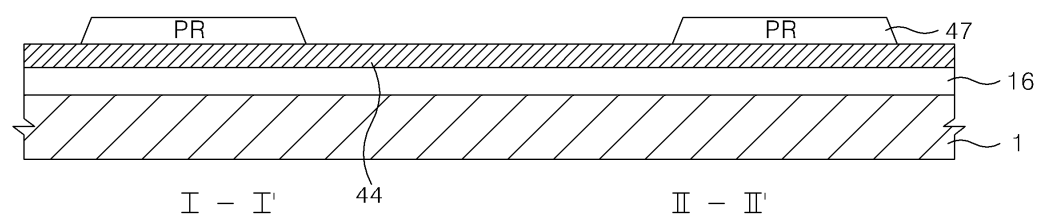
5b



6a



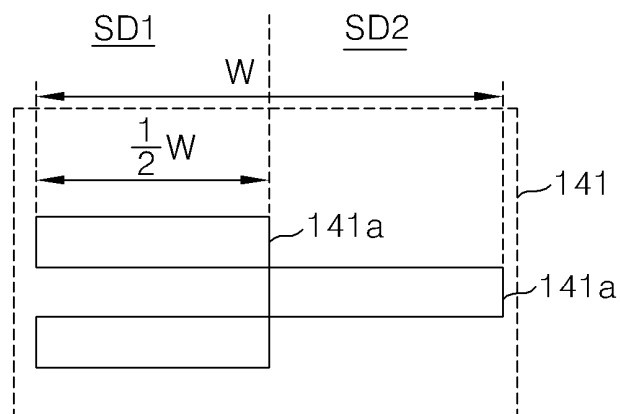
6b



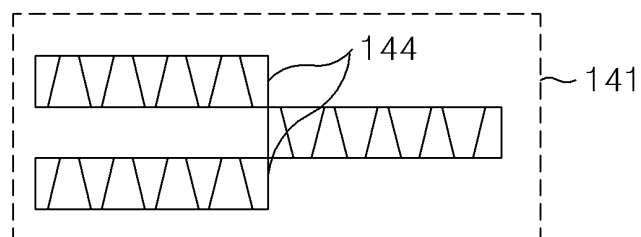
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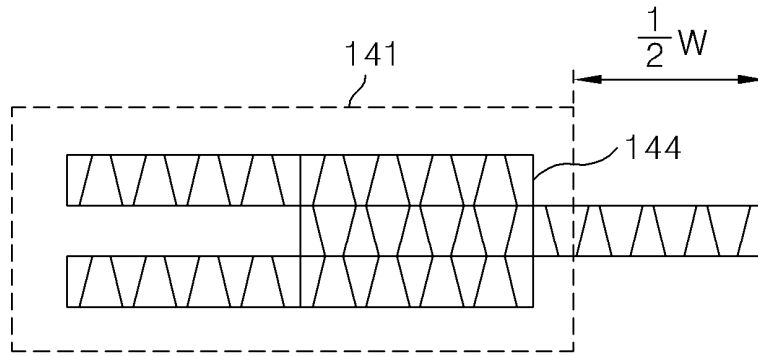
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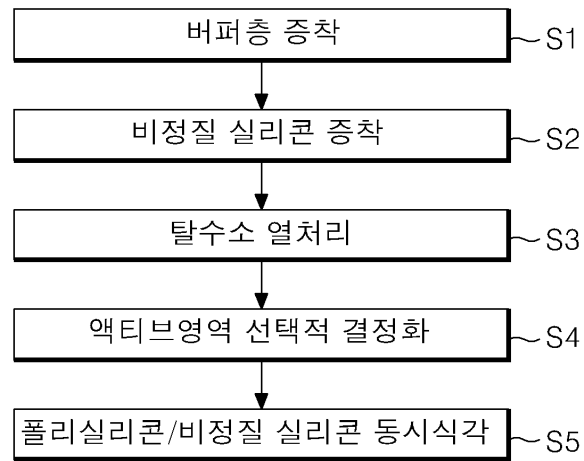
9a



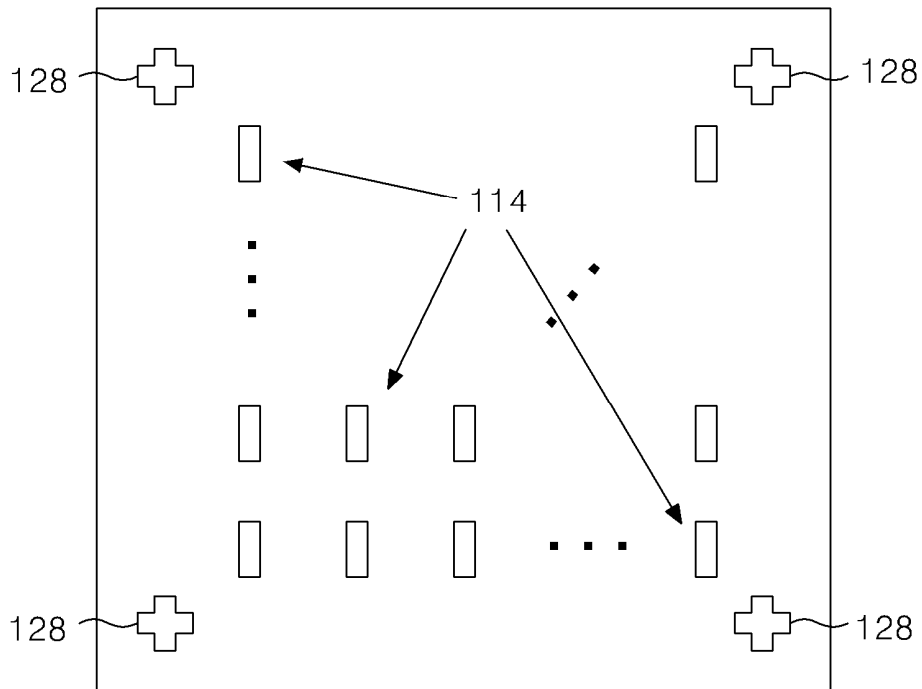
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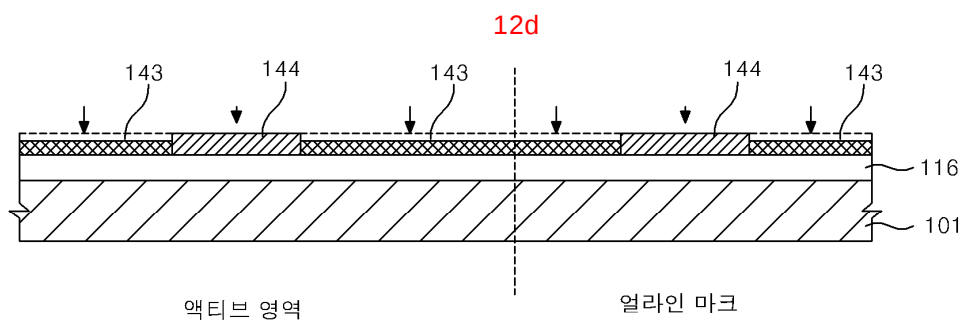
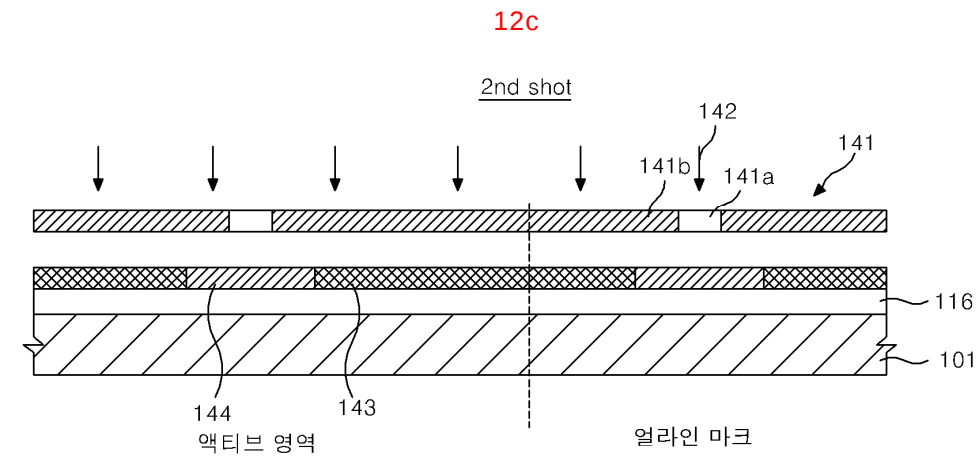
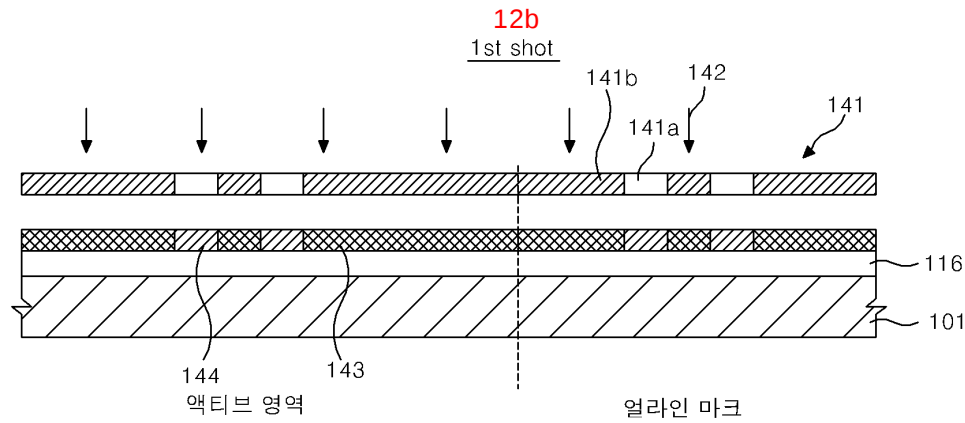
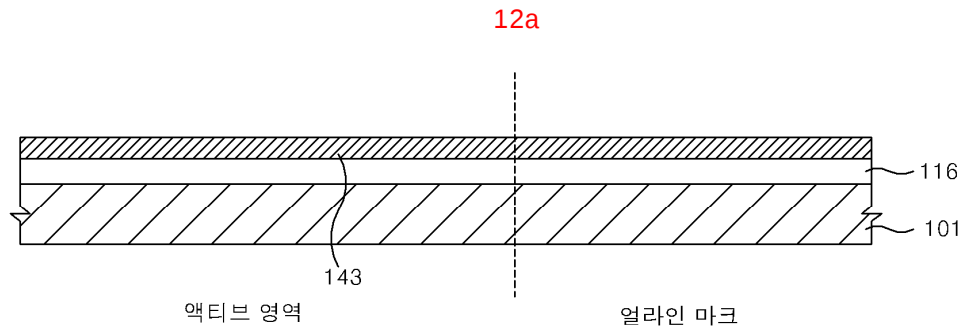


10

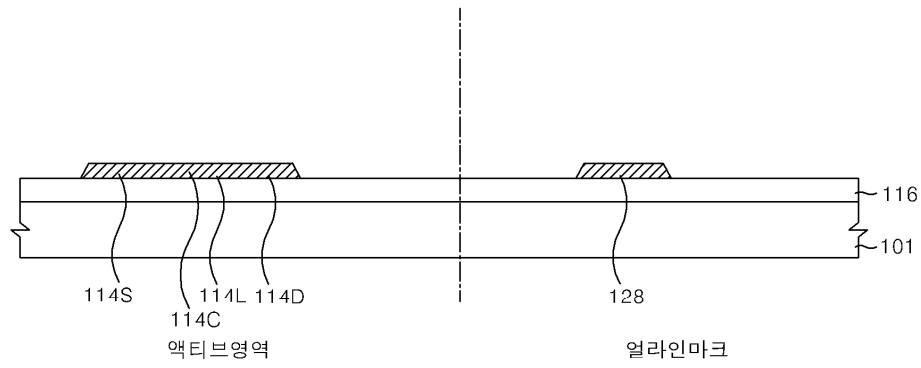


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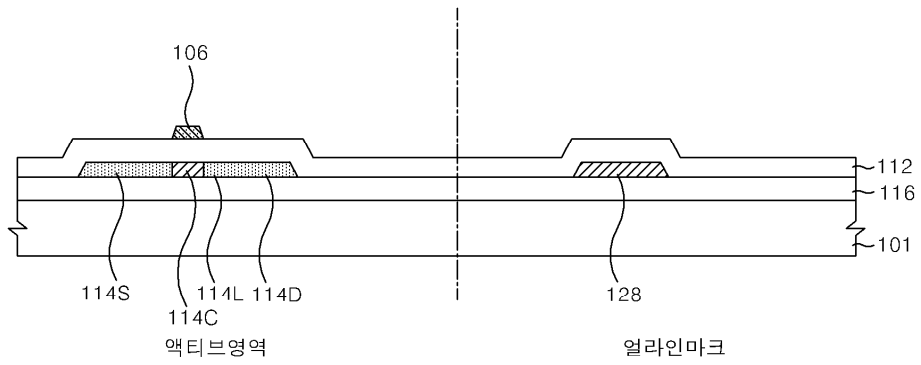




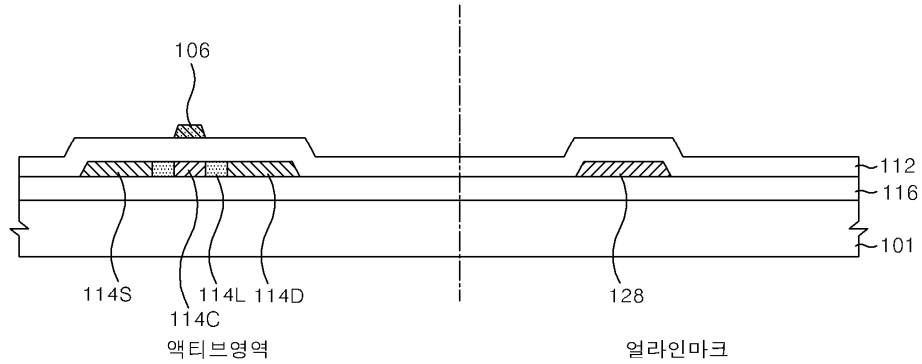
12e



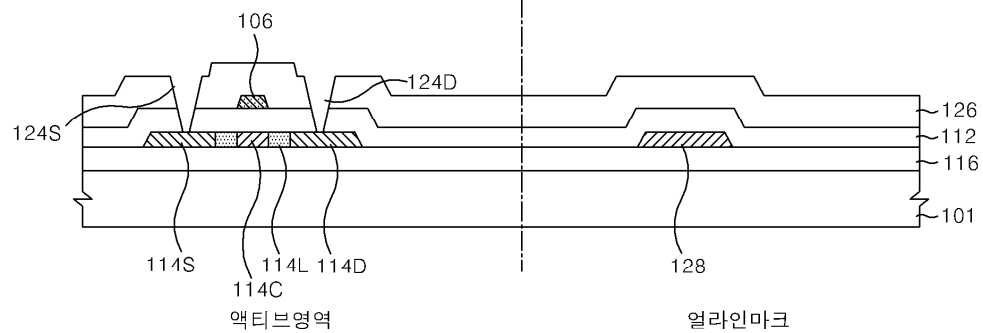
12f



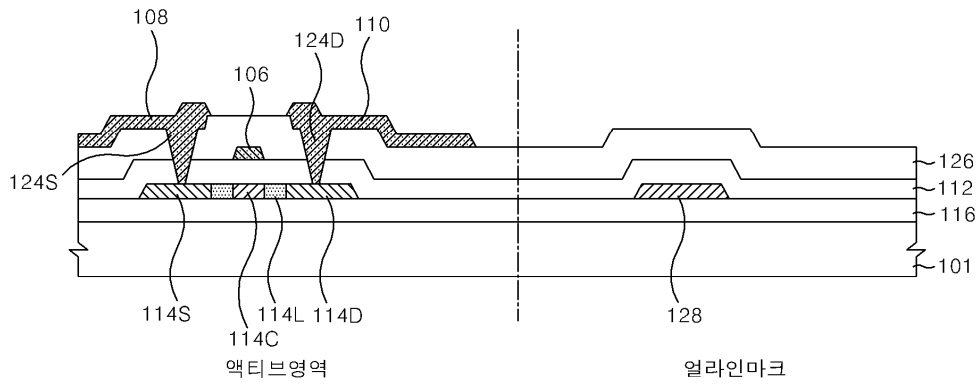
12g



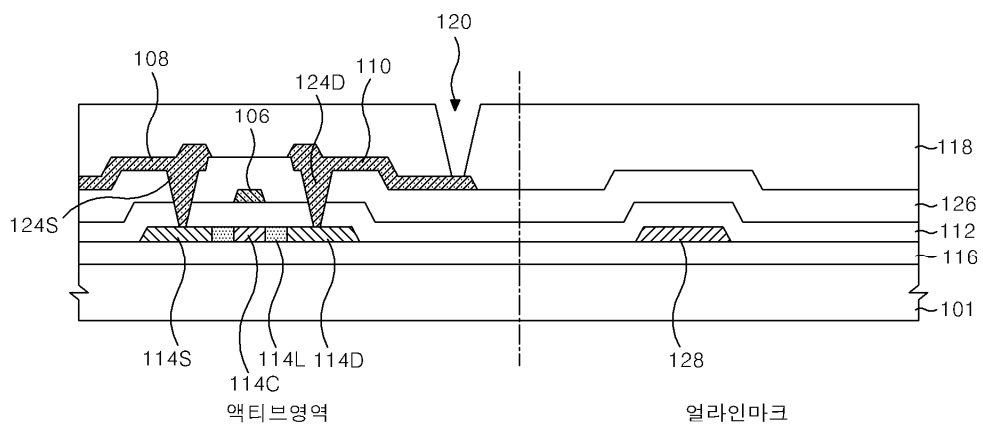
12h



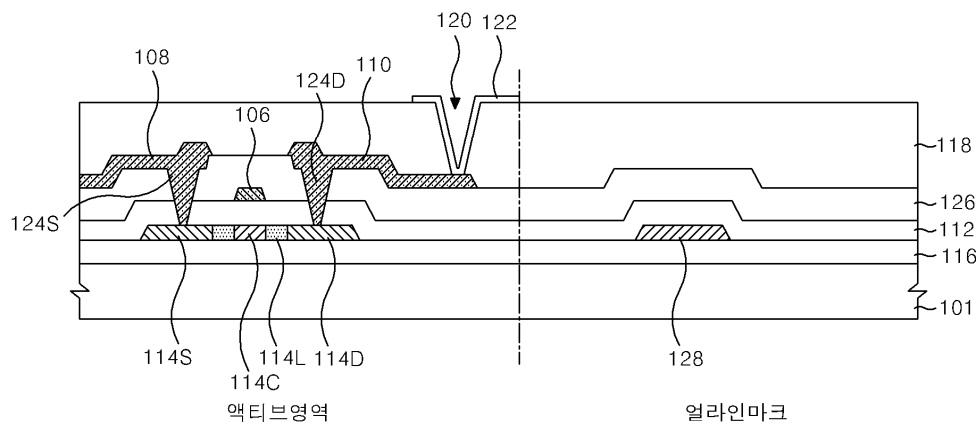
12i



12j



12k



专利名称(译)	液晶显示装置及其制造方法		
公开(公告)号	KR1020050002426A	公开(公告)日	2005-01-07
申请号	KR1020030043804	申请日	2003-06-30
[标]申请(专利权)人(译)	乐金显示有限公司		
申请(专利权)人(译)	LG显示器有限公司		
当前申请(专利权)人(译)	LG显示器有限公司		
[标]发明人	YOU JAESUNG		
发明人	YOU,JAESUNG		
IPC分类号	G02F1/13 G02F1/1362		
CPC分类号	Y10S438/924 G02F2001/136231 G02F1/136277		
代理人(译)	金勇 年轻的小公园		
其他公开文献	KR100954332B1		
外部链接	Espacenet		

摘要(译)

本发明涉及一种液晶显示装置及其制造方法，用于减少工艺数量和降低生产成本。该液晶显示装置及其制造方法部分地使非晶硅结晶，并形成多晶硅图案。刻蚀非晶硅和多晶硅图案，并去除非晶硅，并在衬底上留下多晶硅图案。

